MTGY0001-101
SERIAL NO.: 10/752,791

PATENT
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AMENDMENTS TO THE CLAIMS:

Please cancel claims 8-30 without prejudice.

Please add claims 31-42.

Please amend claims 1 and 6 as follows:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. **(currently amended)** An isolated nucleic acid molecule encoding a protein comprising an amino acid sequence comprising at least 70% sequence identity to SEQ ID NO: 2, wherein the protein has pro-oxidant activity. ~~An isolated nucleic acid molecule selected from the group consisting of: (a) an isolated nucleic acid molecule that encodes the amino acid sequence of SEQ ID No. 2; (b) an isolated nucleic acid molecule that encodes an exon 3-deleted MnSOD; (c) an isolated nucleic acid molecule which comprises SEQ ID No.1; (d) an isolated nucleic acid molecule complementary to SEQ ID No. 1; (e) an isolated nucleic acid molecule that encodes an exon 3-deleted MnSOD and comprises the nucleic acid sequence set forth in SEQ ID NO:3; and (f) an isolated nucleic acid molecule that encodes an exon 3-deleted MnSOD comprising the amino acid sequence set forth in SEQ ID NO:4.~~

2. **(original)** An isolated nucleic acid molecule ~~consisting of the sequence of~~ comprising at least 97% identity to SEQ ID NO: 1.

3. **(original)** The isolated nucleic acid molecule of any of claims 1 or 2, wherein said nucleic acid molecule is operably linked to one or more expression control elements.

4. **(original)** A vector comprising an isolated nucleic acid molecule of any of claims 1 or 2.

5. **(original)** A host cell comprising a vector of claim 4.

6. **(currently amended)** [[A]] The host cell of claim 5, wherein said host cell is selected from the group consisting of a prokaryotic host cell and a eukaryotic host cell.

7. **(original)** A method of producing a polypeptide, comprising the step of culturing a host cell transformed or transfected with a nucleic acid molecule of claim 1 or 2 under conditions in which the polypeptide encoded by said nucleic acid molecule is expressed.

PAGE 5/9 * RCVD AT 3/9/2005 10:47:14 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:215 665 2013 * DURATION (mm-ss):02-50

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8-30. (canceled)

31. (new) The isolated nucleic acid molecule of claim 1, wherein said encoded polypeptide comprises SEQ ID NO: 4.

32. (new) The isolated nucleic acid molecule of claim 1, wherein said encoded polypeptide comprises SEQ ID NO: 2.

33. (new) The isolated nucleic acid molecule of claim 1, wherein said isolated nucleic acid molecule comprises a nucleic acid molecule comprising at least 70% identity to SEQ ID NO: 1.

34. (new) The isolated nucleic acid molecule of claim 1, wherein said isolated nucleic acid molecule comprises a nucleic acid molecule comprising at least 97% identity to SEQ ID NO: 1.

35. (new) The isolated nucleic acid molecule of claim 1, wherein said isolated nucleic acid molecule comprises SEQ ID NO: 3.

36. (new) The isolated nucleic acid molecule of claim 1, wherein said nucleic acid molecule comprises SEQ ID NO: 1.

37. (new) The isolated nucleic acid molecule of claim 1, wherein said pro-oxidant activity is nonspecific mtDNA oxidative damage.

38. (new) An isolated nucleic acid molecule complementary to the isolated nucleic acid molecule of claim 1.

39. (new) The isolated nucleic acid molecule of claim 34, wherein said nucleic acid molecule is complementary to SEQ ID NO: 1.

40. (new) The vector of claim 4, wherein said vector is a plasmid or a viral vector.

41. (new) The isolated nucleic acid molecule of claim 2, wherein said nucleic acid molecule comprises SEQ ID NO: 3.

42. (new) The isolated nucleic acid molecule of claim 2, wherein said nucleic acid molecule comprises SEQ ID NO: 1.

PAGE 6/9 * RCVD AT 3/9/2005 10:47:14 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:215 665 2013 * DURATION (mm-ss):02-50